REMARKS

Applicants respectfully request favorable reconsideration of this application.

Claims 1-6 are pending, with Claim 1 being independent. All claims stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kitahara (US Patent 5,563,196) in view of Suzuki (US Patent 6,586,373) and Kakegawa (US Patent 5,889,081). The rejection is respectfully traversed.

As defined in independent Claim 1, Applicant's invention constitutes a uniquely conceived wet type fiction material which includes:

1) a specific combination of particulates
    - (namely silica having an average particle diameter of 1 to 10μm and disc-shaped diatom earth);

used, in combination, with

2) a specific combination of resins
    - (namely resol type phenol resin and silicone resin)
    - in a specific ratio of 95/5 to 85/5.

The references applied in the outstanding rejection clearly fail to teach or suggest Applicants' invention as defined in Claim 1. The primary reference, Kitahara, fails to disclose either of the aforementioned combinations of particulates and resins. More particularly, Kitahara does not teach the use of silica together with diatom earth. Nor does the reference teach the use of a resol type phenol resin together with silicone resin. It follows, of course, that Kitahara is further deficient with respect to the average silica particle size and weight ratio range of resins of the above combinations specifically set forth in Claim 1. Indeed, beyond the deficiencies just discussed, Kitahara notably fails to teach even the individual use of silica, diatom earth, or resol type phenol resins.

The secondary and tertiary references, Suzuki and Kakegawa, do not overcome the deficiencies of the primary reference discussed above. Suzuki, for example, teaches the use of diatom earth, but does not suggest using it in combination with silica particles of any size. Suzuki also teaches silicone resin, but does not suggest using it in combination with a resol type phenol resin in any ratio, nor with a combination of silica particles and diatom earth.

As to Kakegawa, the Office Action asserted that the reference discloses binders for friction materials wherein the ratio of resol to silicone resin ranges from 99.99 to 70% of resol resin to 0.01 to 30% of silicone resin, citing claims 3-4 (presumably intending claims 4 and 5) and Example 1 of the reference. However, there is no teaching of a silicone resin in the cited portions of the reference. The cited portions of the reference evidently disclose polysilane compositions (Si-Si bonding), whereas Applicants' invention makes use of silicone resins (Si-O bonding). The polysilane compositions of the reference are not silicon resins.

Applicants note that Kakegawa does, in fact, disclose an example using a combination of resol type phenol and silicone resins, but as a comparative illustration of a composition that is considered to be inferior. Thus, one of ordinary skill in the art given Kakegawa's comparative teachings would clearly be led away from Applicants' claimed invention. Moreover, the teachings of the primary and secondary references are deficient in any event as discussed above, regardless of the additional teachings of Kakegawa.

As will be appreciated from the foregoing discussion, Claim 1 sets forth a unique combination of features that is neither taught nor suggested by the applied references. Indeed, without the benefit of hindsight in view of Applicants' present teachings, one of ordinary skill in the art would have found no basis or motivation to combine the applied references in such a manner as would be necessary to achieve Applicants' claimed invention. Indeed, such a combination of references is contraindicated at least by the comparative teachings of Kakegawa.

Accordingly, the outstanding rejection under § 103(a) is untenable and should be withdrawn.

Although the preceding discussion is believed amply to demonstrate the insufficiency of the outstanding rejection, Applicants wish to provide the following additional comments regarding the use of silica and average particle diameter and the ratio range of the resins specifically set forth in Claim 1.

Claim 1 calls for a paper base material including silica having an average particle diameter of 1 to 10 μm. Substances softer than silica, such as calcium carbonate, are not preferred since the the coefficient of friction may not be sufficiently enhanced. Further, substances harder than silica, such as alumina, are not preferred since, although they may provide a high coefficient of friction in an initial engagement condition, the attacking force against the opposing engagement surface is strong such that the coefficient of friction may become reduced over time. Further, the use of silica having an average particle diameter outside the claimed range can lead to insufficiency of the coefficient of friction (below the claimed range) or instability of the coefficient of friction (above the claimed range). See, e.g., the discussion at page 5, line 14 through page 6, line 14 of Applicants' specification.

As to the resin ratio, Claim 1 recites that a weight ration between non-volatile components of the resol type phenol resin and the silicone resin is adjusted to a range of 95/5 and 85/15. Applicants have found that if the non-volatile component of the silicon resin is below 5 weight% of the total non-volatile component, the effect for enhancing heat-resistance (anti-heat spot ability) may not be achieved; whereas, if such non-volatile component exceeds 15 weight%, the binder becomes too soft such that the endurance of the friction material may be reduced. See, e.g., the paragraph bridging pages 10 and 11 of the specification.

The applied references do not teach or suggest the foregoing aspects of Applicants' invention as defined in Claim 1.

The Commissioner is hereby authorized to charge to Deposit Account No. 50-1165 (XA-9958) any fees under 37 C.F.R. §§ 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby requested.

Respectfully submitted,

By:
Mitchell W. Shapiro
Reg. No. 31,568

Michael A. Minter
Reg. No. 58,797

MWS/MAM:ms

Miles & Stockbridge, P.C.
1751 Pinnacle Drive
Suite 500
McLean, Virginia 22102-3833
(703) 903-9000

October 30, 2006